IN THE CLAIMS:

Please amend the claims as follows:

Claims 1-10 (cancelled)

Claim 11 (previously presented): An inverted microscope comprising:

an objective lens for magnifying an image of a sample, disposed below the sample;

a first light source for emitting excitation light to illuminate the sample via said objective lens;

a second light source for emitting a laser beam to illuminate the sample via said objective lens;

an image-forming lens for said laser beam for focusing said laser beam on the sample via said objective lens;

a lens holder for supporting said image-forming lens for said laser beam, the lens holder enabling said image-forming lens for said laser beam to move in a direction of an optical axis of said laser beam for adjusting a position of said image-forming lens for said laser beam so that said laser beam is focused on an appropriate position for said objective lens;

a first optical element for directing light from the sample to an imaging port;

a second optical element for directing said excitation light from the first light source to the sample;

a third optical element for directing said laser beam from said second light source to the sample;

a moving mechanism in which said first optical element and third optical element are mounted, for removing said first optical element and said third optical element from an observation optical path at the same time; and wherein

said first optical element comprises a total reflection prism,

said moving mechanism further holds a total transmission prism for directing light from the sample to an ocular lens, and selectively inserts said first optical element and said total transmission prism in said observation optical path through a movement of said moving mechanism, and

in said moving mechanism, the distance Y_1 which is the distance between said total reflection prism and said total transmission prism$_1$ is set to be longer than a half of the diameter X_1 which is the maximum diameter of a light flux of said observation optical path.

Claims 12-42 (cancelled).

Claim 43 (previously presented): The inverted microscope according to claim 11, wherein the second optical element includes a fluorescent cube and the third optical element includes a dichroic mirror.

Claim 44 (previously presented): An inverted microscope comprising:

an objective lens disposed below a sample;

a first image-forming lens for focusing observation light from said objective lens, said first image-forming lens imaging said observation light at a focal plane;

a reflecting mirror for directing transmitted light passing through said first image-forming lens to a front side of the microscope;

a first optical element disposed between said first image-forming lens and said reflecting mirror, for directing light from said first image-forming lens to the backside of the microscope to form an imaging optical path, which backside is the opposite side of the front side of the microscope on which a lens-barrel is disposed;

a port in said microscope, said imaging optical path passing through said port;

an imaging device coupled to said port, said imaging device being for taking an image that is, at least originally, formed by the first image-forming lens;

a first light source, located on said backside, for emitting excitation light to illuminate the sample via said objective lens;

a second optical element disposed in an observation optical path along the optical axis of said objective lens, for directing said excitation light from the first light source to the sample, and for transmitting observation light from the sample;

a second light source for emitting a laser beam incident on the sample via said objective lens;

a third optical element disposed in said observation optical path, for directing said laser beam from said second light source to the sample, and for transmitting said observation light from the sample and directing said observation light to said first optical element; and

an second image-forming lens for said laser beam disposed between said second light source and said third optical element, for focusing said laser beam on the sample;

a moving mechanism in which said first optical element and said third optical element are disposed, for removing said first optical element and said third optical element from said observation optical path at the same time, wherein:

said first optical element comprises a total reflection prism,

said moving mechanism further holds a total transmission prism for transmitting light from said image forming lens to the reflecting mirror, and selectively inserts said first optical element or said total transmission prism into the observation optical path through a movement of said moving mechanism, and

in said moving mechanism, the distance Y_1 which is the distance between said total reflection prism and said total transmission prism, is set to be longer than a half of the diameter X_1 which is the maximum diameter of a light flux of said observation optical path.

Claims 45-46 (cancelled).

Claim 47 (previously presented): An inverted microscope comprising:

an objective lens disposed below a sample;

a first image-forming lens for focusing observation light from said objective lens, said first image-forming lens imaging said observation light at a focal plane;

a reflecting mirror for directing transmitted light passing through said first image-forming lens to a lens barrel and an ocular lens;

a first optical element disposed between said first image-forming lens and said reflecting mirror, for directing light from said first image-forming lens to an imaging optical path, the first optical element including an total reflection prism;

a port in said microscope, said imaging optical path passing through said port;

an imaging device coupled to said port, said imaging device having an image plane substantially corresponding to the focal plane of the first image-forming lens;

a first light source, for emitting excitation light to illuminate the sample via said objective lens;

a second optical element disposed in an observation optical path along the optical axis of said objective lens, for directing said excitation light from the first light source to the sample, and for transmitting observation light from the sample;

a second light source for emitting a laser beam incident on the sample via said objective lens;

a third optical element disposed in said observation optical path, for directing said laser beam from said second light source to the sample, and for transmitting said observation light from the sample and directing said observation light to said first optical element;

a second image-forming lens for said laser beam disposed between said second light source and said third optical element, for focusing said laser beam on the sample;

a lens holder for holding the second image-forming lens for said laser beam, the lens holder moving along the optical axis of the laser beam to adjust the position of the second image-forming lens so that the laser beam is focused on an appropriate position for the objective lens; and

a moving mechanism on which the first optical element and the third optical element are disposed, the moving mechanism removing the first optical element and third optical element from the observation optical path at the same time, wherein

the moving mechanism changes its status so that the light from the first light source and the laser beam from the second light source are directed to the imaging device when the second light source is used, and the light from the first light source is directed to the ocular lens when the second light source is not used,

the moving mechanism further comprising a total transmission prism, the moving mechanism inserts the total reflection prism and the third optical element into the observation optical path when the second light source is used, and the moving mechanism inserts the total transmission prism into the observation path, and

in the moving mechanism, the distance Y which is the distance between the total reflection prism and the total transmission prism is set to be longer than a half of the diameter X which is the maximum diameter of the light flux of the observation light path.

Claims 48-60 (cancelled).